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SERVICE BULLETIN

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ENGINE BLOCK HEATER INSTALLATION INSTRUCTIONS

APPLIED VEHICLE(S): All Models

SERVICE INFORMATION

This Bulletin contains the engine block heater installation procedures for the following kits:

Description	Part Number
Engine Block Heater Kit	999M4-YA002
Engine Block Heater Kit	99998-10282CA
Engine Block Heater Kit	999M1-49000
Engine lower hose Heater Kit	99998-1024701

Part Number: 999M4-YA002

APPLICATION:

MODEL	ENGINE TYPE	YEAR	LOCATION
Sentra NX 2000	SR20DE	1991 & later	Rear side of the engine. Threaded freeze plug on right side of starter motor. (Fig. 1)

KIT CONTENTS:

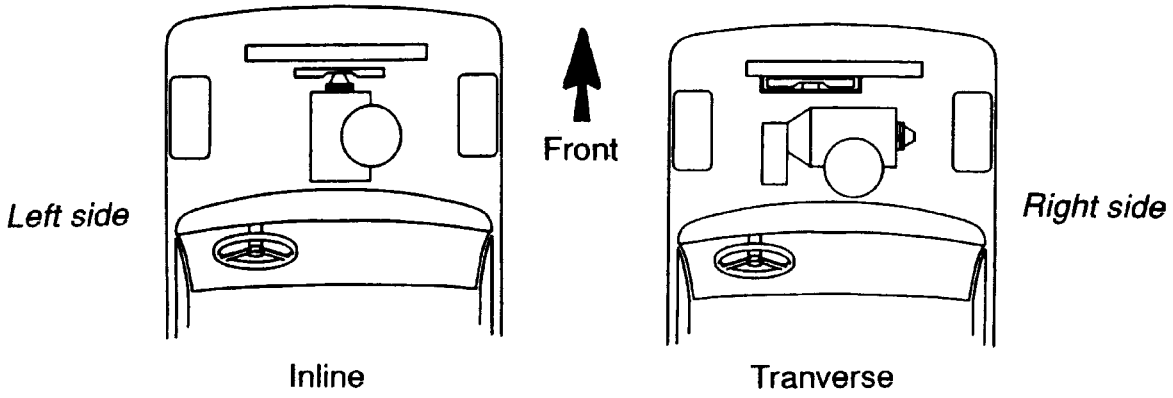
Item No.	Qty.	Item
1	1	Engine block heater assembly
2	1	Gasket
3	1	Power cord
4	1	Power cord end protector cap
5	3	Tie wrap
6	1	Installation Instructions

TOOLS REQUIRED:

Phillips tip screwdriver	24mm combination wrench
10mm socket and ratchet	24mm socket
12mm Hex bit w/universal joint and extension	Torque wrench
	Cutting pliers

INSTALLATION PRECAUTIONS/NOTES:

- Be careful not to damage engine block threads when removing freeze plug or installing block heater.
- Handle engine block heater with care to avoid damaging the threads.
- Do not over-torque engine block heater.
- Ensure that power cord doesn't contact exhaust pipes, sharp edges or vehicle moving parts.
- Torque removed vehicle parts to proper specifications



ENGINE INSTALLATION

Figure 1

PROCEDURE

1. Remove engine undercover on right side only.
2. After the engine coolant and engine components have cooled down, drain engine coolant from radiator and remove threaded freeze plug. (For plug location refer to application chart on page 1.)
3. Apply a thin layer of gasket sealant (Nissan P/N 999MP-A7007) on both sides of the gasket. Slide it over the engine block heater threads.
4. Install engine block heater to engine block being careful not to damage the threads. Torque heater to 32 $\pm$ 4 ft.lb (4.5 $\pm$ 0.5 kg.m).

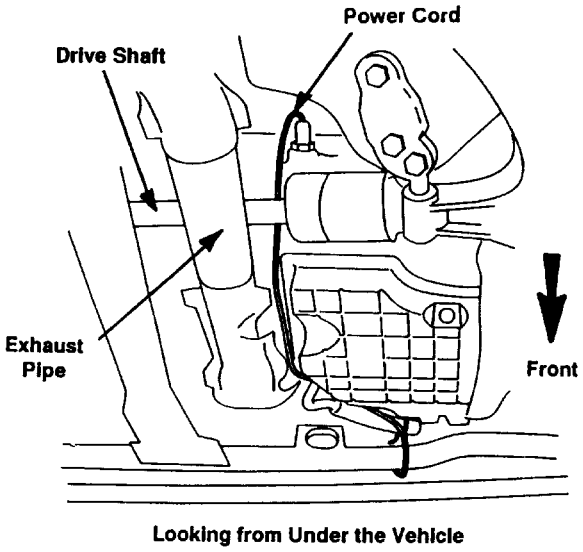
5. Connect power cord to engine block heater and route cord as follows:

   A. From engine block heater route cord down, between drive shaft and engine block, toward front of the vehicle between exhaust pipe and engine oil pan (Figure 2). Attach cord to engine block ear on left side of compressor with a tie wrap. Continue routing cord along the left side of the compressor and attach it to the compressor high pressure hose (rubber portion) with a tie wrap.

   NX: Route cord under radiator core support and out to the front of the vehicle through right side opening of front lower grille. Secure cord to grille with tie wrap (Figure 3).

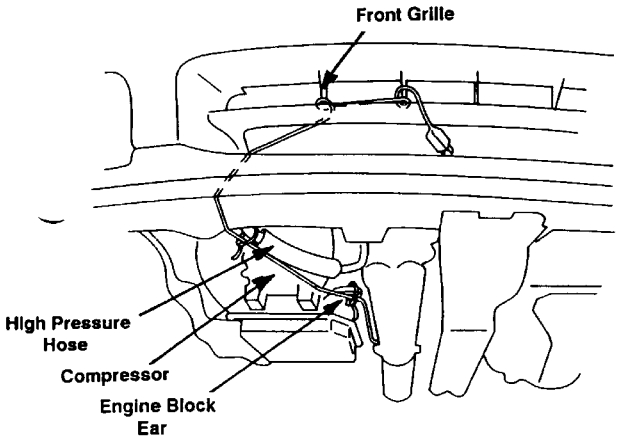
   Sentra: Route cord up and toward the right, through the opening behind right head lamp, between the two legs securing the front grille to the radiator core support. Secure cord to vertical member of front grille with a tie wrap (Figure 4).

   CAUTION: Make sure that power cord is not routed close to or touching any of the vehicle's moving parts or hot surfaces.



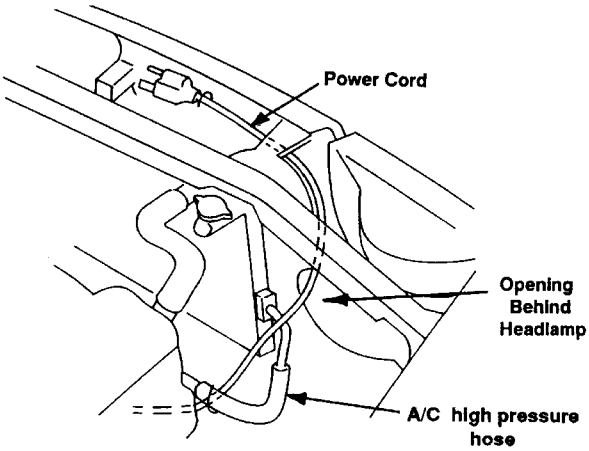
Sentra, NX

Figure 2



NX

Figure 3



Sentra

Figure 4

6. Refill cooling system; pressurize to radiator cap relief pressure and check for leaks. Operate engine to check further for leaks. Refer to manufacturer's Service Manual "Engine Cooling System" section.

   NOTE: It is recommended that low phosphate anti-freeze be used and that a maximum anti-freeze/water mixture ratio of 50/50 be used. Refer to Nissan Owner's Manual "Engine Cooling System" section.

7. Reinstall engine undercover.

8. Use cable end protector cap when heater is not plugged into power source.

Part Number: 99998-10282CA

APPLICATION

MODEL	ENGINE TYPE	YEAR	LOCATION	ELEMENT DIRECTION
300ZX	VG30E VG30DE VG30ET (1)	1986 & later	Driver side, first plug from the rear.	6 o'clock
Maxima	VG30E (2)	1986 & later	Front side, first plug from driver side.	6 o'clock
200SX	VG30E	1987 & later	Driver side, first plug from the rear.	6 o'clock
Stanza Wagon	CA20E	1987 & later	Front side, second plug from driver side.	7 o'clock
Stanza Sedan	CA20E	1989 & later	Front side, first plug from driver side.	7 o'clock
Sentra Pulsar	E16 (3)	1987-1988	Rear side, first plug from passenger side.	8 o'clock
Sentra Pulsar NX	GA16i (3) GA16DE (3)	1989 & later	Front side, first plug from passenger side.	10 o'clock
Pulsar	CA16DE CA18DE	1987 & later	Front side, first plug from driver side.	5 o'clock

PROCEDURE

1. Remove exhaust pipe heat shield and steering column lower joint assembly for access to indicated freeze plug.
   Remove section of exhaust pipe connected to turbocharger if necessary.
2. Remove front section of exhaust pipe for access to indicated freeze plug.
3. Remove alternator for access to indicated freeze plug.

KIT CONTENTS:

Item No.	Qty.	Item
1	1	Heater assembly
2	1	Power cord
3	1	Power cord end protector cap
4	3	Tie wrap
5	1	Installation Instructions

TOOLS REQUIRED:

Center punch	Combination pliers
Hammer	4mm hex wrench
Needle nose pliers	Flat blade screwdriver

INSTALLATION PRECAUTIONS/NOTES:

- Do not over torque engine block heater.
- Ensure that power cord doesn't contact exhaust pipes, sharp edges or vehicle moving parts.
- Torque removed vehicle parts to proper specifications (refer to appropriate Nissan Service Manual)

Part Number; 99M1-49000

APPLICATION

MODEL	ENGINE TYPE	YEAR	LOCATION	ELEMENT DIRECTION
240SX	KA24E	1989 & later	Driver side of the engine, first plug from the rear.	12 o'clock
Axxess Stanza	KA24E	1990 & later	Front side of the engine, first plug from the driver side.	12 o'clock
Truck (1) (4cyl/2WD)	KA24E	1990 & later	Driver side of the engine, first plug from the rear.	12 o'clock

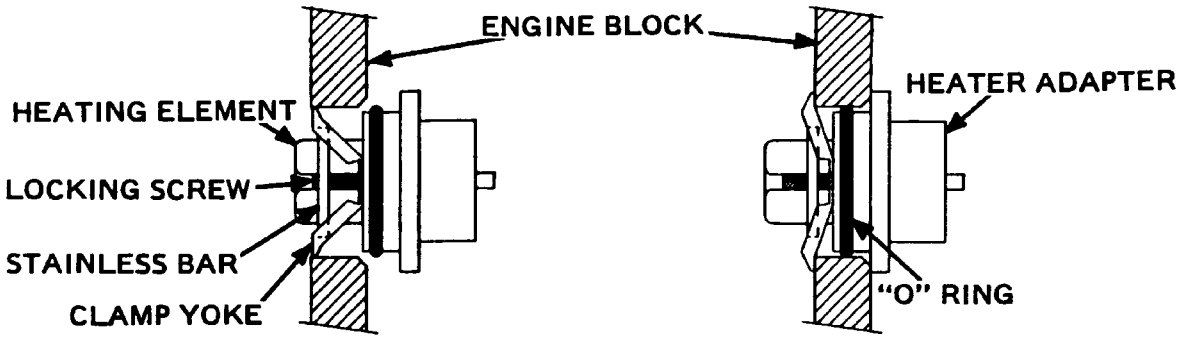
(1) Remove section of exhaust pipe in front of indicated freeze plug to facilitate block heater installation.

KIT CONTENTS:

Item No.	Qty.	Item
1	1	Heater assembly
2	1	Power cord
3	1	Power cord end protector cap
4	3	Tie wrap
5	1	Installation Instructions

TOOLS REQUIRED:

Center punch	Combination pliers
Hammer	4mm hex wrench
Needle nose pliers	Flat blade screwdriver



PROCEDURE

1. Drain coolant and remove specified core plug. (Do not use a screw type freeze plug puller or similar tool to remove the plug as it may cause damage to the engine block.) Remove freeze plug by positioning a flat blade screwdriver against the plug's recessed area and hammering it repeatedly with very short strokes until the freeze plug is loosened and turns. (Do not hammer freeze plug on the edges as this could damage engine block.) Then remove plug with needle nose or combination pliers.
2. Thoroughly clean core plug hole, removing any burrs, compound, paint or rough spots. (If necessary use fine emery paper being careful not to score surface.)

3. Apply a coating of grease to the heater "O" ring and machined surface of the engine block hole to facilitate installation and prevent "O" ring damage.

   NOTE: DO NOT USE GASKET GLUE - it hardens, preventing proper seal and eventually causes leaks.

4. Refer to element direction shown in chart. Insert heater with element pointing in proper direction and push flush to block.

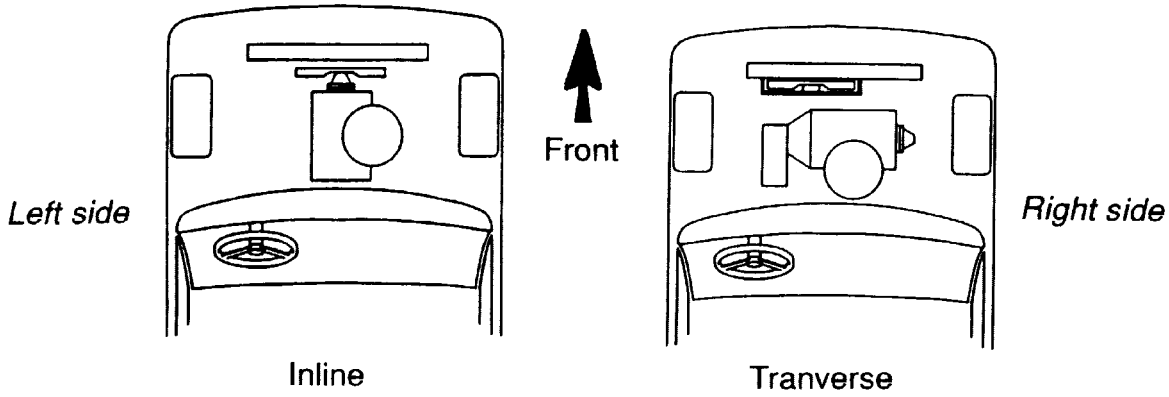
5. Tighten screw to 14-19 in.lb.

6. Install the power cord and route it to the front grille, taping it and securing it with plastic tie wraps where necessary, to insure that the cord does not touch any hot pipes, engine components or moving parts.

7. Refill cooling system, pressurize to radiator cap relief pressure and check for leaks. Operate engine to check further for leaks. Refer to manufacturer's Service Manual "Engine Cooling System" section.

   NOTE: It is recommended that low phosphate anti-freeze be used, and that a maximum anti-freeze/water mixture ratio of 50/50 be used. Refer to the Nissan Owner's Manual "Engine Cooling System" section.

8. Use cable end protector cap when heater is not plugged into power source.
   WARNING: Before connecting heater to power source, make sure that cooling system is filled with recommended coolant (see appropriate Service Manual).



ENGINE INSTALLATION

ENGINE LOWER HOSE HEATER INSTALLATION INSTRUCTIONS

Part Number: 99998-1024701

APPLICATION

MODEL	ENGINE TYPE	YEAR	LOCATION
200SX	CA18ET CA20E	1984-1988	Lower radiator hose
Stanza Sedan	CA20E	1987-1988	Lower radiator hose
Truck	VG30i	1986.5 & later	Lower radiator hose
Pathfinder	VG30i	1987 & later	Lower radiator hose
Truck (4Cyl 4WD	KA24E	1990 & later	Lower radiator hose

KIT CONTENTS:

Item No.	Qty.	Item
1	1	Lower radiator hose heater (with power cord and plug cap)
2	2	Hose clamp

TOOLS REQUIRED:

Phillips screwdriver
Flat blade screwdriver
Heavy duty utility knife
Masking tape or chalk
Electrical tape or wire tie (plastic or wire)
Measuring tape or ruler

PROCEDURE:

1. Check the condition of the vehicle's lower radiator hose. (See Figures 5, 7, 9 and 11 for identification.) If hose is cracked or softened, replace it. If it is in good condition, proceed to Step 2.
2. Working from underneath the vehicle, remove the engine undercover and set it aside.
3. Drain coolant from the engine by opening the drain plug on the bottom of the radiator.
4. Loosen the clamps at both ends of the lower radiator hose. Observe how the hose fits and its shape as installed in the vehicle. Mark the engine end of the hose with tape or chalk. Remove the hose from the vehicle. (Stanza: remove end of hose connected to radiator only.)
5. 200SX: Refer to Figures 5 and 6
   Measure 15 inches from the engine end of the hose and make a mark. From this mark measure 1-1/2" towards the radiator end and mark (Fig. 6). Using these two marks, cut a 1-1/2" section from the hose. Be sure the cut piece is on a straight section of hose and try to keep the hose in its original shape.

   STANZA: Refer to Figures 7 and 8
   Mark hose in the middle of lower section of hose inclined at a 45 angle (Fig. 8). From this mark measure 3/8" toward the radiator end and toward the engine end and mark both places. Using the last two marks, cut a 3/4" section from the hose. Be sure the cut piece is on a straight section of hose and try to keep the hose in its original shape.

   Truck/Pathfinder: Refer to Figures 9 and 10
   Mark hose in the middle of straight section of hose connected to the engine (Fig. 10). From this mark measure 3/8" to 1/2" toward the radiator end and toward the engine end and mark both places. Using the last two marks cut a 3/4" to 1" section from the hose. Be sure the cut piece is on a straight section of hose and try to keep the hose in its original shape.

   Truck (KA24E): Refer to Figures 11 and 12
   Mark hose in the middle of lower half of the straight section (inclined portion of hose) (Fig. 12). From this mark measure 1/2" toward radiator end and toward the engine end and mark both places. Using the last two marks, cut a 1" section from the hose. Be sure the cut piece is on a straight section of hose and try to keep the hose in its original shape.

6. Insert the lower hose heater into the cut ends of the hose (see appropriate drawing). Slide a hose clamp (provided in the kit) over the hose on each end and tighten over the lower hose heater. Again try to keep the hose in its original shape. NOTE: Do not remove electrical cord from heater.

7. Reinstall the lower radiator hose (with lower hose heater) into the vehicle using the original clamps. Tighten all clamps. Make sure that the hose is installed in its original position.

8. Route cord out around the radiator. Use plastic tie wraps to hold the wire away from hot or moving parts.

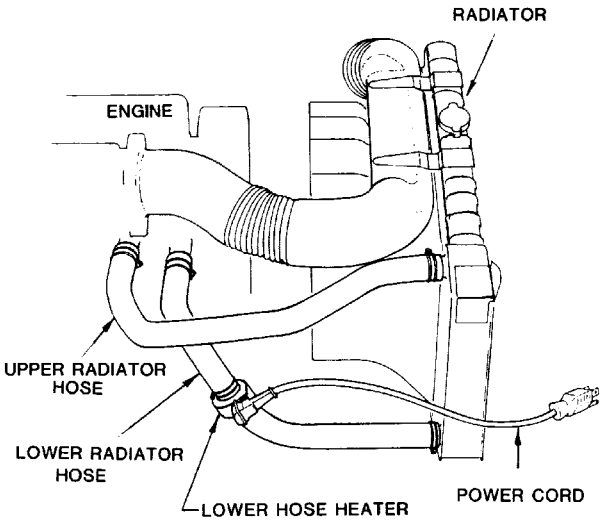
9. Refill radiator with coolant fluid. Start engine and run to expel any air trapped in the system. Check coolant level and add if required.

   NOTE: It is recommended that low phosphate anti-freeze be used, and that a maximum anti-freeze/water mixture ratio of 50/50 be used. Refer to the Nissan Owner's Manual "Engine Cooling System" section.

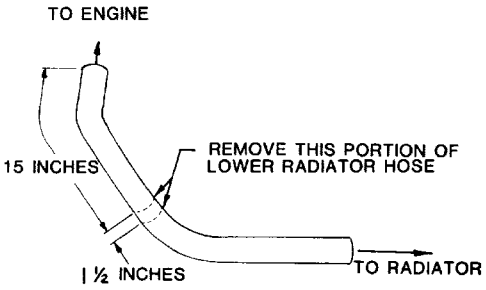
10. Check all hose connections for leaks. Tighten clamps if necessary. Reinstall engine undercover.

11. Use cable end protector cap when heater is not plugged into power source.

200SX

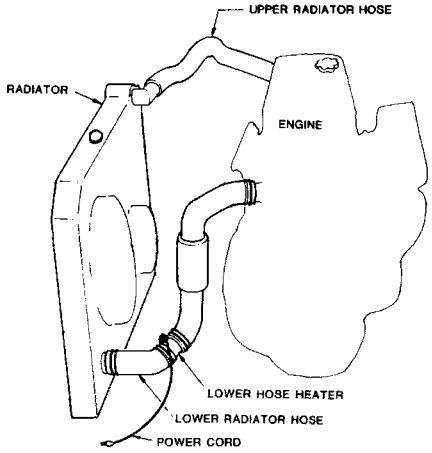


VIEW FROM RIGHT SIDE OF VEHICLE
Figure 5



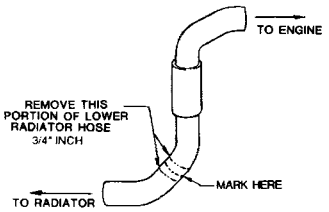
RADIATOR LOWER HOSE
Figure 6

STANZA



VIEW FROM LEFT SIDE OF VEHICLE

Figure 7

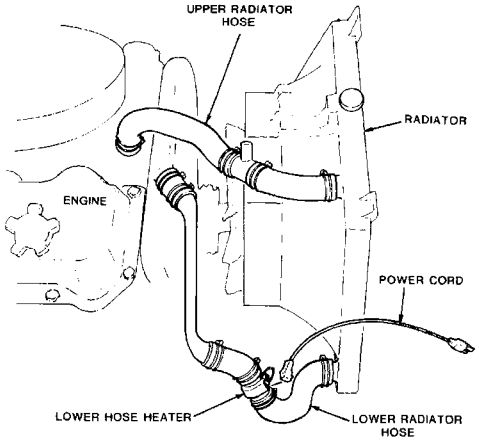


RADIATOR LOWER HOSE

Figure 8

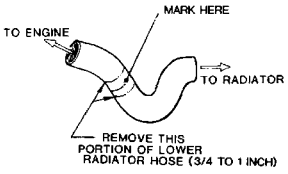
TRUCK/PATHFINDER

(VG30 Engine)



VIEW FROM RIGHT SIDE OF VEHICLE

Figure 9

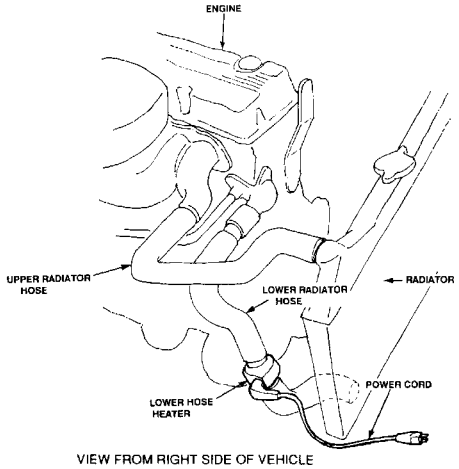


RADIATOR LOWER HOSE

Figure 10

TRUCK

(KA24E Engine)
(4 Cyl., 4WD)



VIEW FROM RIGHT SIDE OF VEHICLE

Figure 11

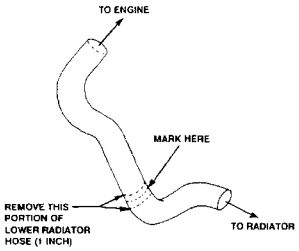


Figure 12